

### Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

### Listing of Claims:

1. (Currently amended) A method in a data processing system for monitoring the execution of a compiled program having a set of groupings, the method comprising:
  - selecting a grouping from the set of groupings for the compiled program to form a selected grouping;
  - associating a set of indicators with instructions in the selected grouping within the set of ~~groupings~~, ~~grouping~~, wherein ~~[[a]]~~ the set of indicators provides data on the execution of the instructions by a processor executing the instructions; ~~[[and]]~~
  - executing the compiled program, wherein data is generated upon encountering an indicator in the set of indicators, the data comprising at least one of a number of times each instruction on the selected grouping has been executed and a number of visits to the selected grouping; and
  - collecting the data.
2. (Original) The method of claim 1 further comprising:
  - repeating the selecting, associating, executing, and collecting steps for all groupings in the set of groupings.
3. (Currently amended) The method of claim 2 further comprising:
  - performing the repeating step each time a timer expires.
4. (Original) The method of claim 1 further comprising:
  - responsive to identifying an instruction in an instruction cache for execution, determining whether an indicator from the set of indicators is associated with the instruction; and
  - counting each event associated with execution of the instruction if the indicator is associated with the instruction to form the data.
5. (Canceled)
6. (Original) The method of claim 1, wherein the set of indicators are located in a shadow memory.

7. (Original) The method of claim 1, wherein the data provides an identification of a usage of routines in the compiled program.

8. (Original) The method of claim 1, wherein the method is located in a scanning daemon.

9. (Original) The method of claim 1, wherein the grouping is selected from one of a page, a subroutine, or a module in a program.

10. (Currently amended) A data processing system for monitoring the execution of a compiled program having a set of groupings, the data processing system comprising:

selecting means for selecting a grouping from the set of groupings for the compiled program to form a selected grouping;

associating means for associating a set of indicators with instructions in the selected grouping within the set of groupings, grouping, wherein [[a]] the set of indicators provides data on the execution of the instructions by a processor executing the instructions; [[and]]

executing means for executing the compiled program, wherein data is generated upon encountering an indicator in the set of indicators, the data comprising at least one of a number of times each instruction on the selected grouping has been executed and a number of visits to the selected grouping; and

collecting means for collecting the data.

11. (Original) The data processing system of claim 10 further comprising:

repeating means for repeating the selecting means, associating means, executing means, and collecting means for all groupings in the set of groupings.

12. (Currently amended) The data processing system of claim 11 further comprising:

performing means for performing the repeating step each time a timer expires.

13. (Original) The data processing system of claim 10 further comprising:

determining means, responsive to identifying an instruction in an instruction cache for execution, for determining whether an indicator from the set of indicators is associated with the instruction; and

counting means for counting each event associated with execution of the instruction if the indicator is associated with the instruction to form the data.

14. (Canceled)
15. (Original) The data processing system of claim 10, wherein the set of indicators are located in a shadow memory.
16. (Original) The data processing system of claim 10, wherein the data provides an identification of a usage of routines in the compiled program.
17. (Original) The data processing system of claim 10, wherein the method is located in a scanning daemon.
18. (Currently amended) A computer program product in a recordable-type computer readable medium for monitoring the execution of a compiled program having a set of groupings, the computer program product comprising:
- first instructions for selecting a grouping from the set of groupings for the compiled program to form a selected grouping;
  - second instructions for associating a set of indicators with instructions in the selected grouping within the set of ~~groupings~~, ~~grouping~~, wherein [[a]] the set of indicators provides data on the execution of the instructions by a processor executing the instructions; [[and]]
  - third instructions for executing the compiled program, wherein data is generated upon encountering an indicator in the set of indicators, the data comprising at least one of a number of times each instruction on the selected grouping has been executed and a number of visits to the selected grouping; and
  - fourth instructions for collecting the data.
19. (Original) The computer program product of claim 18 further comprising:
- fifth instructions for repeating the first instructions, second instructions, third instructions, and fourth instructions for all groupings in the set of groupings.
20. (Currently amended) The computer program product of claim 19 further comprising:
- sixth instructions for initiating the fifth instructions each time a timer expires.
21. (Original) The computer program product of claim 18 further comprising:

fifth instructions, responsive to identifying an instruction in an instruction cache for execution, for determining whether an indicator from the set of indicators is associated with the instruction; and sixth instructions for counting each event associated with execution of the instruction if the indicator is associated with the instruction to form the data.

22. (Canceled)

23. (Original) The computer program product of claim 18, wherein the set of indicators are located in a shadow memory.

24. (Original) The computer program product of claim 18, wherein the data provides an identification of a usage of routines in the compiled program.

25. (Original) The computer program product of claim 18, wherein the method is located in a scanning daemon.